

REMARKS

In response to the objection, claim 1 and withdrawn claim 7 have been amended to remove the noted parentheses.

New claim 15 finds support at page 9, lines 15-16 of the specification. New claim 16 finds support bridging pages 12-13 of the specification. New claim 17 limits the one type of lines in the alternating-line pattern surface to one which comprises a fluorine-containing organic silane compound having a branched perfluoroalkyl group having 5 or less carbon atoms. As claimed in claim 18, the branched perfluoroalkyl group has 2 or 3 carbon atoms. Support is found, for example, by reference to Br-Rf1, 2 and 3 in Table 4 at page 40 of the specification.

As indicated in the Advisory Action dated February 19, 2009, the rejection of claims 1-6 under 35 U.S.C. § 112, second paragraph, has been withdrawn.

Review and reconsideration on the merits are requested.

Claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2002-023356 to Ishida. Claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishida in view of either JP 2001-284289 to Ishida et al. (JP '289) or JP 2001-284274 to Furusawa et al. Claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishida in view of EP 1041652 to Katz et al. (EP '652). Claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ishida in view of EP '652 and either JP '289 or Furusawa et al.

Each of the rejections relies on Ishida (JP 2002-023356) as a primary reference.

The Examiner acknowledged that Ishida '356 only teaches trifluoropropyl trimethoxysilane and not a perfluorinated compound, but maintained the rejection for the reason that it would have been obvious to perfluorinate the propyl trimethoxysilane compound of Ishida. The Examiner believes that the result of making this modification would have been predictable

because a perfluorinated compound would be more non-polar and more lipophilic than the trifluoro compound. Motivation for making the modification, according to the Examiner, is found in that it would more precisely allow the conductive material to go to the 2nd thin film.

The Examiner also cited Ishida '289 and Furusawa et al. as teaching that one may use siloxanes with a perfluorinated isopropyl "R" group on a siloxane.

Applicants traverse, and respectfully request the Examiner to reconsider in view of the executed second Declaration under 37 C.F.R. § 1.132 of Masamichi Morita submitted herewith and the following remarks.

The present invention is directed to an anisotropic material comprising an alternating-line pattern and a layer of at least one functional compound, wherein one type of lines in the alternating-line pattern of the surface comprises a specific fluorine-containing compound as defined in claim 1. Namely, the fluorine-containing compound is at least one fluorine-containing organic silane compound, fluorine-containing organic thiol compound, fluorine-containing organic disulfide compound or fluorine-containing organic phosphate ester compound selected from the group consisting of compound (a) to (f).

As reported in the first Declaration under 37 C.F.R. § 1.132 dated January 15, 2009, monomolecular films of various fluorine-containing compounds were formed. Then, the dynamic wet characteristics (i.e., receding contact angles) were measured, the results of which are set forth in Table 1 of the Declaration.

Specifically, Table 1 of the first Declaration shows results obtained using the fluorine-containing compounds (a), (b), (c), (d), (e) and (f) as claimed in claim 1, and comparative compounds (Comparison A, Comparison B, and Comparison C).

In the Advisory Action dated February 19, 2009, the Examiner explained that the final rejection was maintained because the test data presented in the first Declaration under 37 C.F.R. § 1.132 does not compare the invention to the closest prior art. Specifically, the Examiner considered the closest related compounds from the prior art rejections to be Compound (1) trifluoropropyl trimethoxysilane, Compound (2) perfluoropropyl trimethoxysilane, and Compound (3) perfluoroisopropyl trimethoxysilane. The Examiner further questioned why the Declaration compared the invention to Comparisons B and C not relied upon by the Examiner.

Compound (1) is the compound of JP '356 to Ishida cited by the Examiner.

Responsive to the Examiner's comments as set forth in the Advisory Action, Dr. Morita conducted additional comparative testing as presented in a second Declaration under 37 C.F.R. § 1.132 dated May 25, 2009 submitted herewith. The second Declaration includes test data for a compound (Comparison D) having a linear chain C_1 perfluoroalkyl group and a silane group ($CF_2-CH_2CH_2-Si(OCH_3)_3$, that is trifluoropropyl trimethoxysilane), as requested by the Examiner. Dr. Morita advises that the new Declaration does not include test data for Compounds (2) and (3), because neither perfluoropropyl trimethoxysilane nor perfluoroisopropyl trimethoxysilane can be prepared due to an impossible direct bond between a perfluoroalkyl group and an Si atom.

Table 1 shows that the fluorine-containing compound (a)-(f) of the present invention have a larger receding contact angle to n-hexadecane and xylene in comparison with Comparisons A-D, including newly added trifluoropropyl trimethoxysilane which is the compound of JP '356 to Ishida cited by the Examiner.

That is, Table 1 of the second Declaration demonstrates that the present invention shows significantly advantageous effects in comparison with Compound (1), and also demonstrates the

remarkable effects of the invention in comparison with Comparisons A-C having a prior art correspondence as indicated at pages 10-11 of the Amendment under 37 C.F.R. § 1.116 filed February 2, 2009. As mentioned above, Compounds (2) and (3) requested by the Examiner cannot be prepared.

For the above reasons, it is respectfully submitted that claims 1-6 and 15-18 are patentable over the cited prior art, and withdrawal of the foregoing rejections is respectfully requested.

Withdrawn claim 7 directed to a method for producing an anisotropic material has been amended to include all of the limitations of amended product claim 1. If claim 1 is found to be allowable, Applicants respectfully request rejoinder of withdrawn method claims 7 and 8 pursuant to MPEP § 821.04.

Withdrawal of all rejections and allowance of claims 1-9 and 11-18 is earnestly solicited.

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
Application No.: 10/528,376

Attorney Docket No.: Q86778

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Abraham J. Rosner
Registration No. 33,276

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: June 3, 2009